The Ramtop

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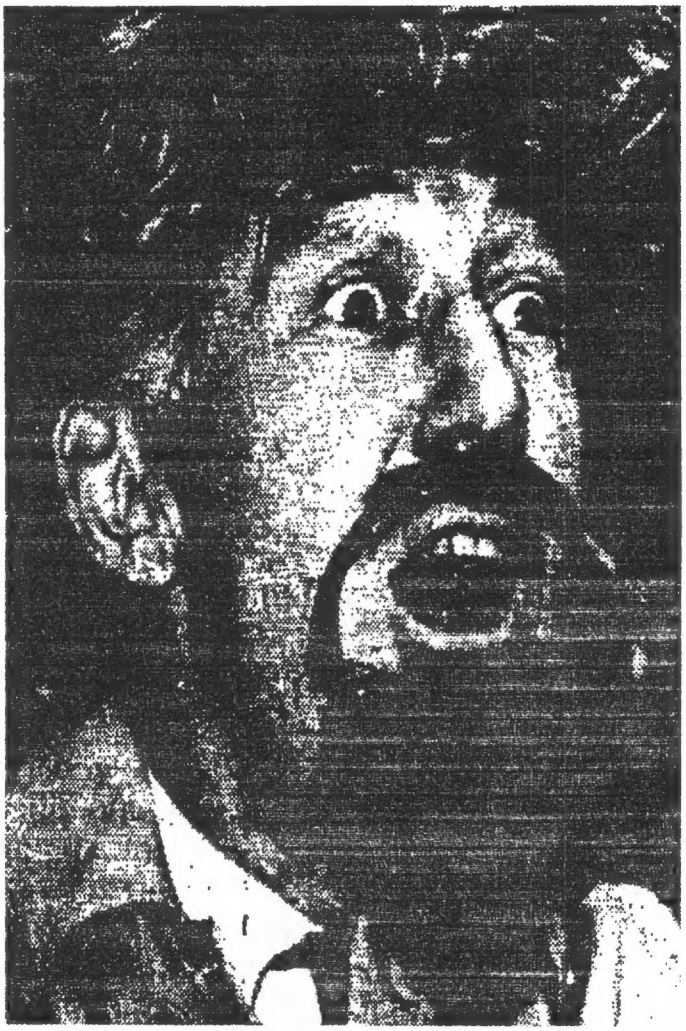


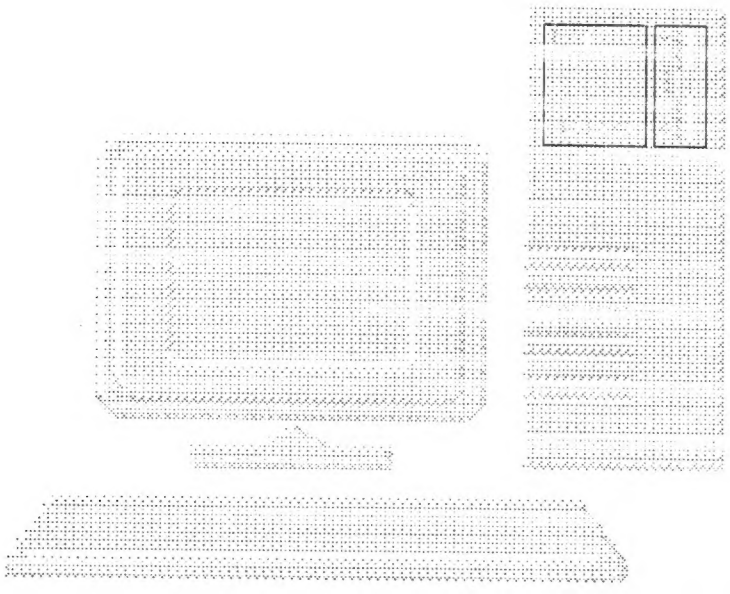
What's in a Name?
Zen and the Internet Part 1
QL Bugs and Fixes

What is in a Name?

Those of you who are from Cleveland will recognize the picture on the cover of this issue as former local television star Ernie Anderson AKA "Goulardi" instead of Sir Clive. Well the point of the picture is that our "group" as Goulardi would say is changing its name. While to other Timex Sinclair User Groups and their members and our friends, we will always remain the **Greater Cleveland TSUG**, to the locals here in Heartbreak City we will be now known as the **Greater Cleveland Classic Computer User Group**. The purpose of the name change is to attract some new blood for our roster of members. We remain dedicated to our Z-80 roots and will support all Sinclair Machines, however we recognize that most of us use and own other machines. Over the past few years we have become and increasingly generic group. Our interests reflect both the pratical day to day use of the contemporary PC and the mastery of the older Sinclair machines, which are still complex enough to invest a lot of time in. Before I start getting hate mail from the QL people, I should say that the QL, mainly because of the large hacker user base in the UK and Germany, has remained more or less a viable machine.

At the Christmas Meeting both Dick Sieg and Max Schoenfeld suggested that we could become a sub-group of a larger PC Group. At this time we have declined to merge, continuing on our own path. The reasoning for declining to assimilate is that the larger groups generally don't offer the kind of intensity that we Sinclair users have come to expect.

We will still be here and we are still active. If owning and interest in the Sinclair machines is a disease then we will follow Goulardi's advice and "Stay Sick."



A BBS Robin Hood

(Jan. 28) In Boston, federal prosecutors have decided not to press charges against a 21-year-old Rockville, Maryland, college student accused of running the biggest software piracy scheme in history.

Last April, David LaMacchia, a computer science major at the Massachusetts Institute of Technology, was indicted for allegedly running a bulletin board system that gave users free copies of more than $1 million worth of copyrighted software.

However, as reported earlier, U.S. District Court Judge Richard Stearns last month threw out the indictment, saying federal law covers only piracy committed for profit or personal gain, and that LaMacchia had committed no crime by giving away the expensive programs via the Internet.

Now U.S. Attorney Donald Stern has told United Press International he won't appeal the judge's ruling, though he believes the case "underscores the desirability of prompt congressional action which would remove any uncertainty that wilful, multiple infringements of copyrighted software, even where there is no commercial motive, is illegal."

The attorney said he will urge Congress to toughen the law to make the theft of copyrighted computer software a federal crime, whether it's stolen for profit or not.

As noted, LaMacchia is alleged to have used an MIT computer lab to run his BBS. UPI says the university declines to say whether it will take disciplinary action against him

HAMFESTS

Feb 26 CFARC Hamfest. Sponsored by the Cuyahoga Falls Amateur Radio Clinic. Emidio's Party Center, State Road in Cuyahoga Falls. More details as they become available.

Apr 28-30 Dayton Hamvention 95. The country's largest amateur radio gathering. Sponsored by the Dayton Amateur Radio Association. Contact DARA at Box 964, Dayton OH 45401. Telephone: 513-276-6930.

QL Sale

Digital Precision Ltd, 222 The Avenue, London E4 9SE, UK has a sale on their QL collection, 66 programs that they have released for £99. Some of the programs are The Editor Special Edition, IDIS Intelligent Dissassembler, Professional Publisher, Superbasic High Speed Compiler, Super Forth 83, Professional Astronomer, QMaths, Digital C Special Edition Compiler, Font Enlarger and many more. They take Visa and Master Charge.

Software of Interest

by Martin van der Zwan

Hello to everybody. I want to tell you about some programs Carlo Delhez and Jack Raats wrote for different computers.

SPECTRUM:

Spectator: a very good spectrum emulator for the QL proven to be one of the most compatible emulators around with many possibility's and tools like snapshot, mdv emulation, sound, and still under development.

CONVERSION: programs written by Jack Raats to read many spectrum disk formats on a PC or QL to convert them to formats usable on emulators.

ZX 81:

QZ: a link between QL and ZX 81 to use the QL as a server while working on a ZX81, complete control of you're QL devices like printer, ramdisks, printer, harddisk, etc., all these are controlled while working on you're ZX81. Included are many tools like Graphiq, a utility to convert QL or PC screens to 6K and a program to display or print this high resolution screens on the ZX81. Lets mention Texter which is a program to print text files written in Quill on the QL on a ZX81 printer in high resolution, the lines are 42 characters long.

XTENDER: a ZX81 emulator for The PC, there are no special hardware requirements for this, the ZX81 emulator will run on almost any PC with all graphics cards and will also display standard High Resolution programs, for example Forty Niner By Software Farm.

XTRICATOR: a ZX81 emulator for the QL, same as Xtender only a bit further in development because of an earlier start. version 1.75 works mouse controlled under the pointer environment and supports real High Resolution, also export facility to printer and ASCII.

CBI: Coral Basic, a revolutionary new operating system for the ZX81 totally relocatable, and faster than ZX81 basic. Features: full screen editor with many new commands, type in commands letter by letter (no more searching on home made keyboard under which key was LOAD or INT just type it) Procedures: no more goto's, finally structured programming. direct machine code access with basic with commands like push call or user etc. Many more commands like indent, draw, protect off & on, auto line numbering, etc., too many to mention here.

ZX ASSEM2: a totally rewritten version of the Arctic assembler with many more commands found on professional assemblers like ORG, COPY, etc. NOTE: Jack Raats also wrote a utility for this program to convert the sources which are made in REM line 2 to ASCII which then can be seen in a neat mnemonics list on QL or PC.

Carlo Delhez and Jack Raats can be contacted on NODE 2:285/751

An RS-232 Utility

Staffan Kjerrström has produced a file to help with the downloading of .SNA to 48k Speccy via IF1-RS232 & other tools called MOY.ZIP. He says "I have uploaded the **MOY.ZIP** package to: ftp.nvg.unit.no /pub/sinclair/incoming and Jamten's file area for PC. +46 63 133330. The SPEC232 part is Copyright 1992 Henk de Groot. The rest is my own stuff. (See the MOY.DOC file)"

Description of **MOY**:

1. General

MOY is a set of tools for upload and download of speccy programs via a local RS232 link to a PC.

MOY is intended for those who prefer "the real thing" instead of emulators. Exchange of speccy programs via Internet or BBS's is easier today than in the ancient times when we used VTX5000 for downloads from Prestel type systems. The MOY tools will help some speccy owners to enjoy these new resources.

Two different program formats are handled:

1) The .SNA format which is useful for program exchange via BBS'es and Internet.

2) The Multiface One format (M1) which is useful if you want to store many

Spectrum programs on the PC hard disk. The M1 format is compressed and this reduces loading time and disk space.

2. Requirements

48K Spectrum and Interface 1.

IBM PC compatible computer with MSDOS.

The SPEC232 programs for sending files on the RS232 local link and for converting between snapshot formats. Cable for RS232 link, as described in SPEC232.

For uploads:

Multiface One (M1) snap box.

For further information write to: **Staffan Kjerrström, Jakobsg. 4, S-724 64 Västerås Sweden. Tel +46 21 125567, Internet: skjerrst@senet.abb.se**

Problems and Solutions

Question: Here's a tough one. A computer at work is experiencing a unique problem. It's a PC machine, running DOS 5.0. When I type dir A: or Dir B: I get a directory listing of the disk I happen to put in either of the floppy drives. That's supposed to happen. BUT: when I put a different disk in either drive and again type Dir A: or Dir B: I get the same directory listing before. THIS IS WITH ENTIRELY DIFFERENT DISKS!

I discovered the problem trying to install a 4-disk program. The message kept coming up, "Insert disk #2" which I did. The same message kept coming up. So I did a directory listing of the disks. They looked like all the same. Typing DIR B: caused the drive to click and the light to come on signifying reading the disk. The result was the same for each disk. So I put a blank formatted disk in the drive and ran DIR B: and it came up with the same listing as all the others. The only way to read a disk is to reboot the computer....Not really practical, especially if you're trying to install a program.

What could be causing the problem? The same thing happens on Drive A:. I tried booting clean (no CONFIG.SYS and no AUTOEXEC.BAT files) and the same problem occurs. I looked at the setup program, but there didn't appear to be any settings. It's a Gateway 386-SX w/ 2 Meg RAM with Chips & Technology "Chipset."

Answer: OK, This is an easy problem... Pin 34 of your Floppy cable is open. Replace the cable with another one and see if it takes care of it.

It could be the cable is not plugged in tight and it can be the controller card not seated in the bus all the way. It can at worst be a bad Floppy controller or motherboard. (Change the Cable) Let me know how it goes!

Reply: It WAS the cable. A bit of corrosion must have been on, like you say, Pin 34. But first, I found another unique fix: To put the DRIVPARM /d:0 /C in the Config.Sys command for each drive. I tried that first on one of the drives and it worked. I then wiggled the connector on the floppy controller and the other drive then worked, proving both solutions worked.

QL Hardware Fixes

by Tony Firshman

IQLR published an interesting article by Dennis Briggs on QL repairs (which I believe reflects his character very well) and Don Walterman. Here are a few comments based on some 1300 QL repairs for customers.

I always swap in good chips when trouble shooting, and have had no problems (despite what Dennis says!). Also the legs are so malleable it is very difficult to break them. The legs are worth cleaning, especially 8302 I use a hard rubber or the special fibreglass pen when I can find it. The JS 0000 pin 1 is often missing - this is normal (does anyone know why?)

First of all though, try the BARE QL and a different monitor/lead (or TV) and power supply that are known to work. Amazing how often I get fully working QLs to 'repair'!!

Problems found in order of frequency:

1) MEMBRANE. This becomes brittle with age and heat. The tail ends can be cut if they break. The usual break though is where the wide tail (nearest heat) bends. Also most IBM keyboard interfaces fall out of the 8049 socket eventually - esp Schoen. SuperHermes will be quite a small board and should NOT suffer this way. Don' t connect a screw to the hole below the

space bar. This hole is only there on early QLs, and can cause spurious spaces.

Often repeated chrs (esp C/V/B etc. or one of these when space pressed) is due to dirt on membrane/bubble mat.

2) 8301. Commonest causes are monitors (esp Microvitek cub - where there is often a HV crack) and Gold Card. The latter is probably due to different GC power up rate. Often I see them go when there is a mains 'brown-out' (voltage drop). You have 3 seconds to switch off before 8301 really BURNS! Miracle changed a ceramic cap to electrolytic on GC. Super GC seems fine.

Dennis talks about the modified ceramic 8301s. Maybe these are the 50 for Syd Day which were mounted with a packaged 15 MHz oscillator on top. This was when 8301s ran out in 1988 or so . Unfortunately (for him) as soon as I had done them at around £6 each, before supplies came back. It was sad to see most of these in his garage after his death.

3) RAM. I, of course, also use Minerva ramfail_bas. I manage to replace the chips easily. They don't come out easily because the pins are bent onto the pads. I use a specially built electric blower with a stand (but a B&D paint stripper would be fine!) for this purpose. I heat the chip from underneath, pull out with an extractor, reheat the pads and drop in a socket. It all takes 30 seconds. It needs a LOT of practise though to avoid overheating. The only failures I have had (popped via) can be cured by soldering a wire through.

4) SERIAL. Order of frequency:

1488 (and combination with 8302 - some 8302s have low output) power supply AC

+12v (yes some 7812s get quite hot, and are UNDER heat sink!) Issue 6 boards usually had a bigger 7812

-12v

1489 (one or two only)

Serial problems are difficult to pin down. I use a loopback lead, and test loopback. If this fails and all voltages are OK I do:

open#3,ser1i: rep loop:print#3,'U';, and then with handshaking and then for ser2, and look at all signal lines with scope.

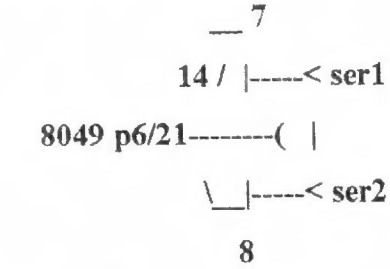
Oh yes, and the Sinclair test is:

```
OPEN#3,ser1:OPEN #4,ser2
PRINT#3,'Test':PRINT #4,'Test'
INPUT#3,in1$:INPUT#4,in2$
```

or something similar, at all baud rates with loopback lead. This tests handshaking too of course.

I find that the two flying resistors (33k from 8302 p19/21 to -12v) are often needed to get serial loopback working. Odd 'cos they are connected to mdv lines. There must be some internal effect -maybe changing output levels.

Dennis doesn't point out the serial input buffering on hal (issue 6):



5) MICRODRIVES Often the rubber roller will rise up. Check the motor screws (four with loose screws). Ribbon cable can work loose. 78M05 regulator legs can break - resolder. If mechanically OK, and doesn't run, try changing TR4 or TR5. If all seems OK and will run but not format on a NEW cartridge, then probably it's the ULA. This CAN be replaced (needs cutting out) but not really worth the trouble - get a new mdv unit.

6) POWER SUPPLY / Voltage Regulator

Often the symptom is slowly scrolling ripple - which can be a sawtooth power supply, but can also be a failing 7805.

I must say I have only experienced maybe 3 p/s with sawtooth that Dennis describes. In these cases the variation of the DC was from 9v to 10.5. I have never seen the 7v to 12v he presents as the norm.

Most QLs I have checked have a fairly steady 10 to 11v - hence the high temperature of the 7805. I find as long as the 7805 is in good condition, and properly screwed down with heat sink compound, there is no 'overheating problem'. There has been so much emphasis put on this, but I found way back in 1985/6 that most times locking up due to 'overheating' was cured by using a mains filter - ie NOT overheating.

These MUST be used with standard QLs. With GC/Super gold card the situation is much better, especially if the redundant high current 68008 is removed. Oh yes - I had one QL for 'repair' with no 68008 - yes you guessed it!

7) 1377. This is thought of as providing UHF or composite video. However on some monitors it provides vertical synch, so if the screen of a monitor is scrolling check +12v and 1377.

No one should fail to perform a mechanical check first- ie monitor/serial leads, screws in mains plug (yes they can even fall out!), bent expansion connector pins and so on.

8) 8302 (rare) Often a failed 8302 will simply mean ram check and no F1/F2 or more commonly no reaction to F1/F2

9) 8049 (rare) Usually means ram check but no F1/F2. First thing to do if you get ram test but no F1/F2 is to remove 8302 and 8049. If still no F1/F2, then it is probably ROM 8000. (Best way to bypass F1/F2 is not, as Dennis suggests, blow a special rom, but to use a joystick! [or Minerva which presses F2 for you of course!] I use a switch connected to a ctrl plug)

10) NETWORK Often fails because the terminator (empty socket) has failed. Bending centre pin connector back on empty socket CAN work, although difficult. Best solution is to have two jack plugs with 330 ohm resistor soldered inside).

11) LED wire colours on some replacement keyboards are different. The standard colours are red (power) black white (mdv1) , black grey(mdv2), black from the back of the QL. Of course the order of the black (GND) doesn't matter. Phew - I am sure I have left things out.

Board repairs are very time consuming, and I must admit if it takes any time, I usualy substitute a working board, and save the filed one for a rainy day! Maybe I should give them to Don. Mind you I guess I have only had to throw away some 20 boards over the years.

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Thomas Simon, Editor

Jon Kaczor, Production

Zen and the Art of the Internet

A Beginner's Guide to the Internet

brendan@cs.widener.edu

1. Network Basics

We are truly in an information society. Now more than ever, moving vast amounts of information quickly across great distances is one of our most pressing needs. From small one-person entrepreneurial efforts, to the largest of corporations, more and more professional people are discovering that the only way to be successful in the '90s and beyond is to realize that technology is advancing at a break-neck pace_and they must somehow keep up. Likewise, researchers from all corners of the earth are finding that their work thrives in a networked environment. Immediate access to the work of colleagues and a "virtual" library of millions of volumes and thousands of papers affords them the ability to encorporate a body of knowledge hereto-fore unthinkable. Work groups can now conduct interactive conferences with each other, paying no heed to physical location_the possibilities are endless.

You have at your fingertips the ability to talk in "real-time" with someone in Japan, send a 2,000-word short story to a group of people who will critique it for the sheer pleasure of doing so, see if a Macintosh sitting in a lab in Canada is turned on, and find out if someone happens to be sitting in front of their computer (logged on) in Australia, all inside of thirty minutes. No airline (or tardis, for that matter) could ever match that travel itinerary.

The largest problem people face when first using a network is grasping all that's available. Even seasoned users find themselves surprised when they discover a new service or feature that they'd never known even existed. Once acquainted with the terminology and sufficiently comfortable with making occasional mistakes, the learning process will drastically speed up.

1.3 Resolving Names and Numbers

Ok, computers can be referred to by either their FQDN or their Internet address. How can one user be expected to remember them all?

They aren't. The Internet is designed so that one can use either method. Since humans find it much more natural to deal with words than numbers in most cases, the FQDN for each host is mapped to its Internet number. Each domain is served by a computer within that domain, which provides all of the necessary information to go from a domain name to an IP address, and vice-versa. For example, when someone refers to foosun.bar.com, the resolver knows that it should ask the system foovax.bar.com about systems in bar.com. It asks what Internet address foosun.bar.com has; if the name foosun.bar.com really exists, foovax will send back its number. All of this "magic" happens behind the scenes.

Rarely will a user have to remember the Internet number of a site (although often you'll catch yourself remembering an apparently obscure number, simply because you've accessed the system frequently). However, you will remember a substantial number of FQDNs. It will eventually reach a point when you are able to make a reasonably accurate guess at what do-main name a certain college, university, or company might have, given just their name.

1.4 The Networks

Internet The Internet is a large "network of networks." There is no one network known as The Internet; rather, regional nets like SuraNet, PrepNet, NearNet, et al., are all inter-connected (nay, "inter-networked") together into one great living thing, com-municating at amazing speeds with the TCP/IP protocol. All activity takes place in "real-time."

UUCP The UUCP network is a loose association of systems all communicating with the `UUCP' protocol. (UUCP stands for `Unix-to-Unix Copy Program'.) It's based on two systems connecting to each other at specified intervals, called polling, and executing any work scheduled for either of them. Historically most UUCP was done with Unix equipment, although the softwares since have been implemented on other platforms (e.g. VMS). For example, the system oregano polls the system basil once every two hours. If there's any mail waiting for oregano, basil will send it at that time; likewise, oregano will at that time send any jobs waiting for basil.

BITNET BITNET (the "Because It's Time Network") is comprised of systems connected by point-to-point links, all running the NJE protocol. It's continued to grow, but has found itself suffering at the hands of the falling costs of Internet connections. Also, a number of mail gateways are in place to reach users on other networks.

1.5 The Physical Connection

The actual connections between the various networks take a variety of forms. The most prevalent for Internet links are 56k leased lines (dedicated telephone lines carrying 56kilobit-per-second connections) and T1 links (spe-cial phone lines with 1Mbps connections). Also installed are T3 links, acting as backbones between major locations to carry a massive 45Mbps load of traffic.

These links are paid for by each institution to a local carrier (for example, Bell Atlantic owns PrepNet, the main provider in Pennsylvania). Also available are SLIP connections, which carry Internet traffic (packets) over high-speed modems.

UUCP links are made with modems (for the most part), that run from 1200 baud all the way up to as high as 38.4Kbps. As was mentioned in Section 1.4 [The Networks], the connections are of the store-and-forward variety. Also in use are Internet-based UUCP links (as if things weren't already confusing enough!). The systems do their UUCP traffic over TCP/IP connections, which give the UUCP-based network some blindingly fast "hops." resulting in better connectivity for the network as a whole. UUCP connections first became popular in the 1970's, and have remained in wide-spread use ever since. Only with UUCP can Joe Smith correspond with someone across the country or around the world, for the price of a local telephone call.

BITNET links mostly take the form of 9600bps modems connected from site to site. Often places have three or more links going; the majority, however, look to "upstream" sites for their sole link to the network.

"The Glory and the Nothing of a Name"
Byron, Churchill's Grave

Part 2 next issue

1.1 Domains

Getting where you want to go can often be one of the more difficult aspects of using networks. The variety of ways that places are named will probably leave a blank stare on your face at first. Don't fret; there is a method to this apparent madness.

If someone were to ask for a home address, they would probably expect a street, apartment, city, state, and zip code. That's all the information the post office needs to deliver mail in a reasonably speedy fashion. Likewise, computer addresses have a structure to them. The general form is: a person's email address on a computer: user@somewhere.domain a computer's name: somewhere.domain

The user portion is usually the person's account name on the system, though it doesn't have to be. somewhere.domain tells you the name of a system or location, and what kind of organization it is. The trailing domain is often one of the following:

com Usually a company or other commercial institution or organization, like Convex Computers (`convex.com').

edu An educational institution, e.g. NewYork University, named `nyu.edu'.

gov A government site; for example, NASA is `nasa.gov'.

mil A military site, like the Air Force (`af.mil').

net Gateways and other administrative hosts for a network (it does not mean all of the hosts in a network). One such gateway is `near.net'.

org This is a domain reserved for private organizations, who don't comfortably fit in the other classes of domains. One examplei s the Electronic Frontier Foundation (see Section 8.3.3 [EFF]) named `eff.org'.

Each country also has its own top-level domain. For example, the us domain includes each of the fifty states. Other countries represented with domains include:

au	**Australia**
ca	**Canada**
fr	**France**

uk The United Kingdom. These also have sub-domains of things like `ac.uk' for academic sites and `co.uk' for commercial ones.

The proper terminology for a site's domain name (somewhere.domain above) is its Fully Qualified Domain Name (FQDN). It is usually selected to give a clear indication of the site's organization or sponsoring agent. For example, the Massachusetts Institute of Technology's FQDN is `mit.edu'; similarly, Apple Computer's domain name is `apple.com'. While such ob-vious names are usually the norm, there are the occasional exceptions that are ambiguous enough to mislead_like `vt.edu', which on first impulse one might surmise is an educational institution of some sort in Vermont; not so. It's actually the domain name for Virginia Tech. In most cases it's relatively easy to glean the meaning of a domain name_such confusion is far from the norm.

1.2 Internet Numbers

Every single machine on the Internet has a unique address,2 called its Internet number or IP Address. It's actually a 32-bit number, but it's most commonly represented as four numbers joined by periods (`.'), like 147.31.254.130. This is sometimes also called a dotted quad; there are literally thousands of different possible dotted quads. The ARPAnet (the mother to today's Internet) originally only had the capacity to have up to 256 systems on it because of the way each system was addressed. In the early eighties, it became clear that things would fast outgrow such a small limit; the 32-bit addressing method was born, freeing thousands of host numbers.

Each piece of an Internet address (like 192) is called an "octet," representing one of four sets of eight bits. The first two or three pieces (e.g. 192.55.239) represent the network that a system is on, called its subnet. For example, all of the computers for Wesleyan Universitv are in the subnet 129.133. They can have numbers like 129.133.10.10, 129.133.230.19, up to 65 thousand possible combinations (possible computers).

IP addresses and domain names aren't assigned arbitrarily_that would lead to unbelievable confusion. An application must be filed with the Network Information Center (NIC), either electronically (to hostmaster@nic.ddn.mil) or via regular mail.